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PATENT SPECIFICATION
DRAWINGS ATTACHED

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COMPLETE SPECIFICATION

Dispensing Head for Aerosol Container

We, STEVENS DUNN INC., a corporation organized under the laws of the State of Delaware, United States of America, of 1450 Broadway, New York, State of New York, United States of America, do hereby declare the invention for which we pray that a patent may be granted to us and the method by which it is to be performed to be particularly described in and by the following statement:—

This invention relates to a dispensing head in the form of a cover cap for co-operating with the valve stem of a pressurized aerosol container for the administration of therapeutic agents in the form of a vapor or fine mist, and including means whereby the vapor may be locally applied as desired by the user, the cover cap being constructed to be used as a cap and protector for the valve stem of the aerosol container when the device is not in use so that it is easily carried in pocket or purse without appreciable danger of leakage or accidental actuation.

It is also desirable to provide the cap with an audible air passage only when an actuator is depressed for releasing spray.

It is also desired the dispensing head requires no assembly problems on the part of the user, such as in the apparatus shown in our British patent No. 664,785, but at the same time the aerosol valve is protected, stretching and detaching of the dispensing head to valve stem is disallowed, and the dispensing head may always be coupled with the valve stem of the aerosol container.

In accordance with the present invention there is provided a dispensing head for an aerosol container charged with a self-propelling liquid composition and equipped with an inwardly depressible and actuable valve stem, said head comprising a cylindrical body member adapted to fit on the container, a delivery tube shaped for administration of the aerosol contents to the oral cavity of the user, an air inlet permitting mixing of air with the aerosol contents within the delivery tube, said delivery tube being substantially straight and being formed as an integral part of the cylindrical body member and secured substantially perpendicularly thereto, a depressible button slidably positioned within the cylindrical body member to move axially thereof so as to engage said valve stem for depressing the latter, said button being maintained in normal inoperative position by the resilient action of said stem, said air inlet comprising an opening in the cylindrical body member through which a portion of said depressible button extends, the depressible button normally closing said air inlet but opening the same upon being depressed.

Reference is made to the accompanying drawings illustrating a specific embodiment of the invention in which:

Fig. 1 is a perspective view illustrating the device with the closure cap in place;

Fig. 2 is a sectional view through the device showing the construction thereof;

Fig. 3 is a partial view similar to Fig. 2 but showing the valve depressed;

Fig. 4 is a plan view, looking in the direction of arrow 4 in Fig. 2;

Fig. 5 is a plan view on an enlarged scale of the cap of the depressible button, and

Fig. 6 is a bottom plan view thereof.

For the purpose of illustrating the invention, the same is shown in Figs. 1 and 3 as being applied to an aerosol container 10. As shown in Fig. 2, the aerosol container is provided with a crimped neck portion 12 or other female which supports the depressible valve stem 14 and as is well known in the art when the valve stem is pressed inwardly in the direction of the arrow 16, a spray will be emitted from the end of the valve stem 14 to the nasal cavity. The aerosol container can be of the tumbling type or it can be a continuous type as desired.

The dispensing head which comprises the subject matter of the present invention is

FIG. 1

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generally indicated by the reference numeral 18. In the first place there is generally cylindrical body member 20 having an inwardly directed flange in the form of a first rim 22 with a generally annular opening 24 therein indicated at 24 and this opening receives a depressible button 26 to be hereinafter described. At the end opposite the first rim 22 the body member 20 is open and the dispensing head 18 is substantially permanently over the crimped neck portion 12 of the container 10.

The cylindrical member 20 has a delivery tube in the form of a right-angled cylindrical portion 28 tapered therewith and this is provided with a reduced mouth portion 30 for the sliding reception of a closure cap 32. The cylindrical portion 28 rises however at its top portion thereof above the first rim 22 as is clearly shown in Figs. 1 and 2 and is joined to cylindrical member 20 along curved lines 34 (see Fig. 1). An inclined surface 36 extends well above the first rim 22 and closes the part of portion 28 above top rim 22.

Referring more particularly now to the construction of the button 26, it will be seen that this is provided at its upper end with an inclined or beveled wall 38 which when the button is in its raised position when against a similarly inclined or beveled wall 40 forming a part of the edge of the opening 24. This accommodates the wall at 38 of button 26 and also its effect forms an upper stop for member through which a portion of said depressible button extends, the depressible button normally closing said air inlet but opening the same upon being depressed.

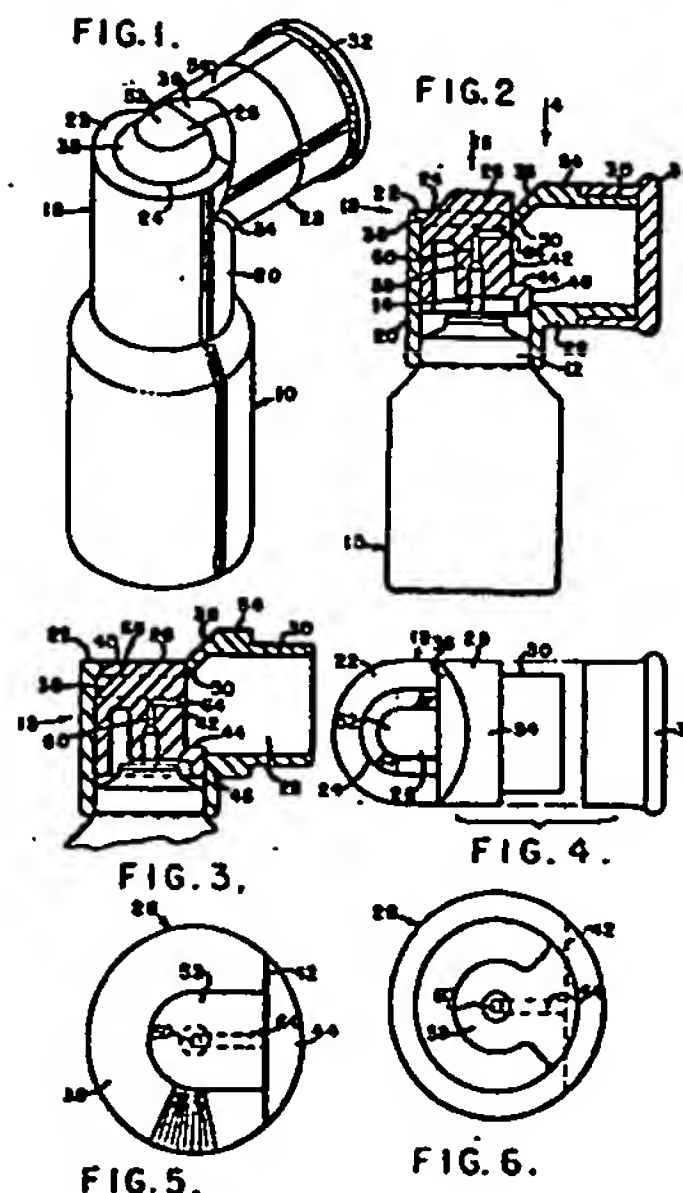
2. A dispensing head according to claim 1, in which the air inlet is defined by an inwardly directed flange on the cylindrical body member, said flange having an inclined wall, and a correspondingly inclined wall on the button, said inclined walls being engaged in the normal inoperative position of said button but providing the air inlet upon depression of said button.

3. A dispensing head according to claim 2, in which the matching inclined walls have frustoconical surfaces.

4. A dispensing head according to any one of the preceding claims, which comprises a finger piece on said depressible button normally extending into close proximity with the top surface of a projection of the delivery tube.

5. A dispensing head according to claim 4, in which the inoperative position of the button the fingerpiece is spaced slightly below the top surface of the projection of the delivery tube.

6. A dispensing head according to any one of the preceding claims, which includes a closure cap adapted for reception on the mouth portion of the delivery tube.



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7. A dispensing head according to any one of the preceding claims, positioned on a crimped neck portion of an aerosol container so as to be substantially permanently fixed on said neck portion with the depressible button engaging the valve stem of the aerosol container.

8. A dispensing head for an aerosol container substantially as herein described with reference to the accompanying drawings.

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